ABSTRACT

The cubic equations of state (CEOS) relate pressure, temperature and molar volume of a mixture. The deviation of the physical properties of a mixture from ideality is expressed by the compressibility factor. The compressibility factor is calculated from the CEOS. There is described a solution to the CEOS which provides a continuous solution for compressibility factors over the entire range of operating conditions. This solution avoids the non-unique roots, trivial roots and singularities that are present in the prior art solutions of the CEOS.